IN THE CLAIMS

Please amend the claims as follows:

1. (previously presented) An optical system comprising a first optical unit and a first sensor unit for sensing electromagnetic radiation, wherein the optical system is arranged such that incident electromagnetic radiation that originates from a scene outside of the optical system can reach the first sensor unit by passing via the first optical unit and by following a beam path from the first optical unit to the first sensor unit, wherein the optical system further comprises a micromirror matrix unit, which comprises a plurality of micromirror elements and which is arranged in the beam path, wherein the micromirror matrix unit is operable to be set in at least a first and a second state, wherein in the first state the micromirror matrix unit reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that the electromagnetic radiation reaches the first sensor unit, wherein in the second state the micromirror matrix unit reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that the electromagnetic radiation does not reach the first sensor unit.

2. (previously presented) An optical system according to claim 1, wherein the first sensor unit comprises a plurality of sensor elements and is arranged to be positioned in an image plane in the optical system, which image plane is operable to constitute an image plane for the scene.

3. (previously presented) An optical system according to claim 2, wherein the sensor elements are arranged as a two-dimensional array of sensor elements and wherein the optical system is constructed as a staring system.

4. (previously presented) An optical system according to claim 3, wherein the image plane, in which the first sensor unit is positioned, is arranged in the optical system so that it constitutes an image plane for the scene when the scene is located at such a distance from the optical system that rays from a point in the scene reach the first optical unit as at least substantially parallel rays.

5. (previously presented) An optical system according to claim 1, wherein the first sensor unit is operable to sense radiation within the infra-red wavelength range.

6. (previously presented) An optical system according to claim 1, further comprising a second sensor unit operable to sense electromagnetic radiation and arranged so that when the micromirror matrix unit is set in a state which is different from the first state, the micromirror matrix unit reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that this electromagnetic radiation reaches the second sensor unit.

7. (previously presented) An optical system according to claim 6, wherein the micromirror matrix unit is in the second state when it is set such that the incident electromagnetic radiation reaches the second sensor unit.

8. (previously presented) An optical system according to claim 7, wherein the second sensor unit is of another kind than the first sensor unit, such that the second sensor unit is less disposed to be destroyed by electromagnetic radiation than the first sensor unit.

9. (previously presented) An optical system according to claim 8, wherein the second sensor unit is a quadrant detector.

10. (currently amended) An optical system according to claim 9, wherein the second sensor unit ~~(26)~~ is arranged in the optical system so that it is not in an image plane for the scene, when the scene is located at such a distance from the optical system that rays from a point in the scene reach the first optical unit as at least substantially parallel rays.

11. (previously presented) An optical system according to claim 10, arranged to prevent incident electromagnetic radiation from the scene being reflected back to the scene from the second sensor unit.

12. (previously presented) An optical system according to claim 11, further comprising an optical isolator in the beam path between the first optical unit and the second sensor unit.

13. (previously presented) An optical system according to claim 1, comprising at least one reference source for emitting electromagnetic radiation of a known kind, wherein the reference source is arranged so that electromagnetic radiation from the reference source reaches the first sensor unit when the micromirror matrix unit is set in a state which differs from the first state.

14. (previously presented) An optical system according to claim 13, wherein the reference source is arranged so that electromagnetic radiation from the reference source reaches the first sensor unit when the micromirror matrix unit is set in the second state.

15. (previously presented) An optical system according to claim 14, further comprising a control unit which controls at least the setting of the micromirror matrix unit.

16. (previously presented) An optical system according to claim 15, wherein the control unit is also arranged to control the sensing of the first sensor unit, so that the first sensor unit senses at a plurality of occasions per second and wherein the control unit (32) is operable to control the micromirror matrix unit (16) between the sensing occasions so that it is not in the first state.

17. (previously presented) An optical system according to claim 16, further comprising means for detecting if the optical system is exposed to scanning or destroying radiation, wherein the control unit is arranged to control the micromirror matrix unit so that the first state is avoided when said the detecting means has detected scanning or destroying radiation.

18. (previously presented) An optical system according to claim 17, wherein the control unit is arranged to, when the means has detected scanning or destroying radiation, control the micromirror matrix unit so that it reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that the electromagnetic radiation reaches the second sensor unit.

19. (previously presented) An optical system according to claim 18, wherein the control unit is arranged to individually control a setting of the mirror elements of the micromirror matrix unit so that an amount of electromagnetic radiation which is reflected by the micromirror matrix units towards the first sensor unit is controlled by the setting of the mirror elements of the micromirror matrix unit.

20. (cancelled)

21. (cancelled)

22. (original) A target-seeking system comprising an optical system comprising a first optical unit and a first sensor unit for sensing electromagnetic radiation, wherein the optical system is arranged such that incident electromagnetic radiation that originates from a scene outside of the optical system can reach the first sensor unit by passing via the first optical unit and by following a beam path from the first optical unit to the first sensor unit, wherein the optical system further comprises a micromirror matrix unit, which comprises a plurality of micromirror elements and which is arranged in the beam path, wherein the micromirror matrix unit is operable to be set in at least a first and a second state, wherein in the first state the micromirror matrix unit reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that the electromagnetic radiation reaches the first sensor unit, wherein in the second state the micromirror matrix unit reflects the incident electromagnetic radiation which reaches the micromirror matrix unit from the first optical unit so that the electromagnetic radiation does not reach the first sensor unit.

23. (original) A target-seeking system according to claim 22, wherein the target-seeking system is a target-seeking missile.